

Listing of Claims:

1-18. (Cancelled).

19. (Previously Presented) A method of operating a reactor which comprises a reactor chamber, an upper electrode, a heater that heats said upper electrode, and gas inlets and outlets, the method comprising:

introducing process gas into said reactor chamber, wherein the method of operation of the reactor is a platinum etch method, and wherein oxygen and chlorine are present in the reactor; and

heating the upper electrode with said heater to a temperature in order to cause deposits of oxygen and chlorine to de-absorb from the upper electrode in order to leave mostly platinum deposited on the electrode, such that any material resulting from the reaction deposited on the surface of the upper electrode forms a stable layer of material.

20-66. (Cancelled)

67. (Previously Presented) The method of claim 19, wherein the step of heating using the heater that heats the upper electrode comprises heating to a temperature between about 300°C to about 500°C.

68. (Previously Presented) The method of claim 19, wherein the reactor further comprises at least one side electrode, and a second heater provided in the at least one side electrode that heats said at least one side electrode, and gas inlets and outlets, the method further comprising:

heating the at least one side electrode with said second heater such that any material resulting from the reaction deposited on the surface of the at least one side electrode forms a stable layer of material.

69. (Previously Presented) A method of platinum etch in a reactor which comprises a reactor chamber, an upper electrode, a heater that heats said upper electrode, and gas inlets and

outlets, the method comprising:

introducing process gas into said reactor chamber; and

heating the upper electrode with said heater to a temperature in order to cause deposits of mostly platinum on the surface of the upper electrode wherein said deposits of mostly platinum forms a stable layer of material.

70. (Previously Presented) The method of claim 69, wherein the step of heating using the heater that heats the upper electrode comprises heating to a temperature between about 300°C to about 500°C.
71. (Previously Presented) The method of claim 69, wherein the reactor further comprises at least one side electrode, and a second heater provided in the at least one side electrode that heats said at least one side electrode, and gas inlets and outlets, the method further comprising:
- heating the at least one side electrode with said second heater such that any material resulting from the reaction deposited on the surface of the at least one side electrode forms a stable layer of material.
72. (Previously Presented) The method of claim 69, wherein the step of heating includes heating the surface of the upper electrode with the heater until any volatile compound of platinum collected on the surface of the upper electrode de-absorbs from the surface of the upper electrode.
73. (Previously Presented) The method of claim 72, wherein the volatile compound of platinum is a compound of platinum with chlorine or oxygen.
74. (Previously Presented) The method of claim 69, wherein the step of heating includes heating the surface of the upper electrode until any volatile compound of platinum collected on the surface of the upper electrode boils off the surface of the upper electrode.
75. (Previously Presented) The method of claim 74, wherein the volatile compound of platinum is a compound of platinum with chlorine or oxygen.

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76. (Previously Presented) A method of etching non-volatile films in a reactor which comprises a reactor chamber, an upper electrode, a heater that heats said upper electrode, and gas inlets and outlets, the method comprising:
- introducing process gas into said reactor chamber; and
 - heating the upper electrode with said heater to a temperature in order to cause deposits of mostly the non-volatile film on the surface of the upper electrode wherein said deposits of mostly non-volatile film forms a stable layer of material.
77. (Previously Presented) The method of claim 76, wherein the non-volatile film is selected from a group consisting of platinum, iridium, iridium oxide, barium strontium titanate, strontium bismuth tantalate, strontium titanate, ruthenium, ruthenium oxide, and lead zirconium titanate.
78. (Previously Presented) The method of claim 76, wherein the step of heating using the heater that heats the upper electrode comprises heating to a temperature between about 300°C to about 500°C.
79. (Previously Presented) The method of claim 76, wherein the reactor further comprises at least one side electrode, and a second heater provided in the at least one side electrode that heats said at least one side electrode, and gas inlets and outlets, the method further comprising:
- heating the at least one side electrode with said second heater such that any material resulting from the reaction deposited on the surface of the at least one side electrode forms a stable layer of material.
80. (Previously Presented) The method of claim 76, wherein the step of heating includes heating the surface of the upper electrode until any volatile compound of the non-volatile film collected on the surface of the heater de-absorbs from the surface of the heater.
81. (Previously Presented) The method of claim 80, wherein the volatile compound of the non-volatile film is a compound of the non-volatile film with chlorine or oxygen.
82. (Previously Presented) The method of claim 76, wherein the step of heating includes

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heating the surface of the upper electrode until any volatile compound of the non-volatile film collected on the surface of the upper electrode boils off the surface of the upper electrode.

83. (Previously Presented) The method of claim 82, wherein the volatile compound of the non-volatile film is a compound of the non-volatile film with chlorine or oxygen.